Form PTO-1449

Applicant:

Mahendra S. Rao and Tahmina Mujtaba

Serial No.: Filing Date:

09/073,881

For:

May 6, 1998

COMMON NEURAL PROGENITOR FOR THE CNS AND PNS

Sheet 1 of 8

Att'y Docket No. T4903.CIP

Group: 1643

1644.

INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

Examiner <u>Initial*</u>	Patent <u>Number</u>	Issue <u>Date</u>	<u>Name</u>	Class	Sub <u>Class</u>	Filing Date
COV A1	5,411,883	5/95	Boss et al.	435	240.2	
A2	5,753,506	5/98	Johe et al.	435	377	
A3	5,589,376	12/31/96	Anderson et al.	435	240.2	/

Foreign Patent Documents

NONE

Other Documents

(including author (if listed), title, relevant pages, date of publication including at least month and year).

Examiner Initial*

0-V.

Cattaneo et al., Nature, 347:762-765 (1990)

Examiner: Date Considered! C/5/00

Form PTO-1449 Applicant:	Iahendra S. Rao and Tahmina Mujtaba		Sheet 2 of 8
* *	9/073,881	Att'y Docket 1	No. T4903.CIP
	Iay 6, 1998		Group: 1643
For: C	COMMON NEURAL PROGENITOR FOR TH	E CNS AND PNS	1644
	F. H. Gage et al., <i>Isolation, Characterization and Use of</i> Neurosci. 159-92 (1995)	f Stem Cells from the CNS, 1	8 Ann. Rev.
	M. Marvin et al., <i>Multipotential Stem Cells in the Vertel</i> (1992)	brate CNS, 3 Semin. Cell. Bi	ol. 401-11
	A. A. Davis et al., <i>A Self-Renewing Multipotential Stem</i> Nature 363-72 (1994)	cell in Embryonic Rat Cerel	bral Cortex, 362
	A. G. Gritti et al., Multipotential Stem Cells from the Ad in Response to Basic Fibroblast Growth Factor, 16 J. N		and Self-Renew
	B. A. Reynolds et al., <i>A Multipotent EGF-Responsive S.</i> <i>Neurons and Astrocytes</i> , 12 J. Neurosci. 4565-74 (1992	•	r Cell Produces
	B. A. Reynolds et al., Clonal and Population Analyses I Mammalian Embryonic CNS Precursor is a Stem Cell,		
	B. P. Williams et al., <i>The Generation of Neurons and C</i> Cell, 7 Neuron 658-93 (1991)	Nigodendrocytes from a Con	ımon Precursor
	T. J. Kilpatrick et al., <i>Cloned Multipotential Precursors</i> Whereas Glial Restricted Precursors are Stimulated wit 3653-61 (1995)		_
	J. Price et al., <i>Lineage Analysis in the vertebrate Nervou</i> <i>Transfer</i> , 84 Developmental Biol. 156-60 (1987)	s System by Retrovirus-Medi	iated Gene
	B. Williams, <i>Precursor Cell Types in the Germinal Zon</i> 93 (1995)	ne of the Cerebral Cortex, 17	BioEssays 391-

Examiner:	Vay	Date Considered:	6/s/bo

Form	PTO-1449
1.01111	1 10 1117

Sheet 3 of 8

•	
Appli	cant:

Mahendra S. Rao and Tahmina Mujtaba

Serial No.:

09/073,881

Att'y Docket No. T4903.CIP

Group: 1643

Filing Date: For:

May 6, 1998

COMMON NEURAL PROGENITOR FOR THE CNS AND PNS

1644

A15	V. Hamburger, The Mitotic Patterns in the Spinal Cord of the Chick Embryo and Their Relation to the Histogenic Process, 88J. Comp. Neuorol. 221-84 (1948)
A16	H. O. Nomes et al., Temporal Pattern of Neurogenesis in the Spinal Cord of Rat. I. An Autoradiographic Study Time and Sites of Origin and Migration and Settling Patterns of Neuroblasts, 73 Brain Res. 121-38 (1974)
A17	J. Altman et al., <i>The Development of the Rat Spinal Cord</i> , 85 Adv. Anat. Embryol. Cell Biol. 32-46 (1984)
A18	P. E. Phelps et al., Generation Patterns of Four Groups of Cholinergic Neurons in Rat Cervical Spinal Cord: A Combined Tritiated Thymidine Autoradiographic and Choline Acetyltransferase Immunocytochemical Study, 273 J. Comp. Neurol. 459-72 (1988)
A19	P. E. Phelps et al., Embryonic Development of Four Different Subsets of Cholinergic Neurons in Rat Cervical Spinal Cord, 291 J. Comp. Neurol. 9-26 (1990)
A20	E.W. Chen et al., Early Stages in the Development of Spinal Motor Neurons, 320 J. Comp. Neurol. 291-303 (1992)
A21	J. Dodd et al., Spatial Regulation of Axonal Glycoprotein Expression on Subsets of Embryonic Spinal Neurons, 1 Neuron 105-16 (1988)
A22	J. Erickson et al., Early Stages of Motor Neuron Differentiation Revealed by Expression of Homeobox Gene Islet-1, 256 Science 1555-59 (1992)
A23	M. Hirano et al., Gliogenesis in the Rat Spinal Cord: Evidence for Origin of Astocytes and Oligodendrocytes from Radial Precursors, 21 J. Neurosci. Res. 155-67 (1988)
A24	B. C. Warf et al., Evidence for the Ventral Origin of Oligodendrocyte Precursors in the Rat Spinal Cord, 11 J. Neurosci. 2477-88 (1991)

		1	/			
Examiner:	()	Yai	1e~	Date Considered:	6/5/00	
	<i></i>		<i>y</i>			

Form PTÖ-1449		Sheet 4 of 8
Applicant: Serial No.:	Mahendra S. Rao and Tahmina Mujtaba 09/073,881 Att'y Docket	No. T4903.CIP
Filing Date: For:	May 6, 1998 COMMON NEURAL PROGENITOR FOR THE CNS AND PNS	Group: <u>1</u> 643- [64
A25	N. P. Pringle et al., A Singularity of PDGF Alpha-Receptor Expression in the Dors the Neural Tube May Define the Origin of the Oligodendrocyte Lineage, 117 Deve (1993)	oventral Axis of elopment 525-33
A26	D. J. Anderson, The Neural Crest Cell Lineage Problem: Neuropoiesis?, 3 Neuro	n 1-12 (1989)
A27	J. Ray et al., Spinal Cord Neuroblasts Proliferate in Response to basic Fibroblast (J. Neurosci. 3548-64 (1994)	Growth Factor, 14
A28	M. Bronner-Fraser et al., Cell Lineage Analysis Slows Multipotency of Some Avian Cells, 355 Nature 161-64 (1988)	Neural Crest
A29	M. Murphy et al., Fibroblast Growth Factor Stimulates the Proliferation and Diffe Neural Precursor Cell In Vitro, 25 J. Neurosci. Res. 463-75 (1990)	rentiation of
A30	J. Drago et al., Fibroblast Growth Factor-Mediated Proliferation of Central Nervo Precursors Depends on Endogenous Production of Insulin-like Growth Factor 1, Acad. Sci. USA 2199-2203 (1991)	ous System 88 Proc. Nat'l.
A31	T. J. Kilpatrick et al., Cloning and Growth of Multipotential Neural Precursors: For Proliferation and Differentiation, 10 Neuron 255-65 (1993)	equirements for
A32	P. G. Bannerman et al., <i>Protein Growth Factor Requirements of Rat Neural Crest</i> Neurosci. Res. 46-57 (1993)	Cells, 36 J.
A33	D. L. Stemple et al., Isolation of a Stem Cell for Neurons and Glia from the Mamr Crest, 71 Cell 973-85 (1992)	nalian Neural
A34	L. Sommers et al., The Cellular Function of MASH 1 in Autonomic Neurogenesis 58 (1995)	, 15 Neuron 1245-

Examiner:	1 // /a	Date Considered: 6/5/00	

Form PTO-1449
Applicant:

Mahendra S. Rao and Tahmina Mujtaba

Serial No.:

09/073,881

Att'y Docket No. T4903.CIP

Group: 1643

Sheet 5 of 8

Filing Date: For:

May 6, 1998

COMMON NEURAL PROGENITOR FOR THE CNS AND PNS

1644

A35	U. Lendahl et al., CNS Stem Cells Express a New Class of Intermediate Filament Protein, 60 Cell 585-95 (1990)
A36	W. Camu et al., Purification of Embryonic Rat Motoneurons by Panning on a Monoclonal Antibody to the Low-affinity NGF Receptor, 44 J. Neurosci. Meth. 59-70 (1992)
A37	M. Raff, Glial Cell Diversification in the Rat Optic Nerve, 243 Science 1450-55 (1989)
A38	L. E. Lillien et al., Analysis of the Cell-Cell Interactions that Control Type-2 Astrocyte Development In Vitro, 4 Neuron 525-34 (1990)
A39	A. L. Vescovi et al., bFGF Regulates the Proliferative Fate of Unipotent (Neuronal) and Bipotent (Neuronal/Astroglial) EGF-Generated CNS Progenitor Cells, 11 Neuron 951-66 (1993)
A40	S. Temple et al., Isolated Rat Cortical Progenitor Cells are Maintained in Division In Vitro by Membrane-Associated Factors, 120 Development 999-1008 (1994)
A41	F. Aloisi et al., Developmental Appearance, Antigenic Profile, and Proliferation of Glial Cells of the Human Embryonic Spinal Cord: An Immunocytochemical Study Using Dissociated Cultured Cells, 5 Glia 181 (1992)
A42	R. S. Cameron et al., Glial Cell Lineage in Cerebral Cortex: A Review and Synthesis, 4 Glia 124-37 (1991)
A43	C. L. Chan et al., Oligodendrocyte-type 2 Astrocyte (0-2A) Progenitor Cells from Neonatal and Adult Rat Optic Nerve Differ in Their Responsiveness to Platelet-Derived Growth Factor, 55 Brain Res. Dev. Brain Res. 275-82 (1990)
A44	G. A. Elder et al., Characterization of Glial Subpopulations in Cultures of the Ovine Central Nervous System, 1 Glia 317-27 (1988)

		•			
Examiner:	177				
	1 T/ You	les	Date Considered:	11-1.	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u>/</u>		6/5/00	
*EXAMINE	P. Initial if mfarmer				

		γ				
Form PTO-1449	Mahandra S. Raa and Tahmina Muitaha	Sheet 6 of 8 Att'y Docket No. T4903.CIP				
Applicant: Serial No.:	Mahendra S. Rao and Tahmina Mujtaba 09/073,881					
Filing Date:	May 6, 1998	Group: 1643				
For:	COMMON NEURAL PROGENITOR FOR THE CNS AND PNS					
A45	J. Fok-Seang et al., Distribution and Differentiation of A2B5 + Glial Precursors in the Developing Rat Spinal Cord, 37 J. Neurosci. Res. 219-35 (1994)					
A46	B. P. Fulton et al., Visualization of O-2A Progenitor Cells in Developing an Adult Rat Optic Nerve by Quisqualate-Stimulated Cobalt Uptake, 12 J. Neurosci. 4816-33 (1992)					
A47	D. S. Galileo et al., Neurons and Glia Arise from a Common Progenitor in Chicken Optic Tectum: Demonstration with Two Retroviruses and Cell Type-Specific Antibodies, 87 Proc. Nat'l Acad. Sci. USA 458-62 (1990)					
A48	A. L. Gard et al., Oligodendroblasts Distinguished from O-2A Glial Progenitors by Surface Phenotype (O4 + GalC-) and Response to Cytokines Using Signal Transducer LIFR β , 167 Dev. Biol. 596-608 (1995)					
A49	R. Hardy et al., Proliferation and Differentiation Potential of Rat Forebrain Oligodendroglial Progenitors Both In Vitro and In Vivo, 111 Development 1061-80 (1991)					
A50	R. J. Hardy et al., Oligodendrocyte Progenitors are Generated Throughout the Embryonic Mouse Brain, But Differentiate in Restricted Foci, 122 Development 2059-69 (1996)					
A51	P. E. Knapp, Studies of Glial Lineage and Proliferation In vitro Using an Early Marker for Committed Oligodendrocytes, 30 J. Neurosci. Res. 336-45 (1991)					
A52	M. B. Luskin et al., Neurons, Astrocytes, and Oligodendrocytes of the Rat Cerebral Cortex Originate from Separate Progenitor Cells: An Ultrastructural Analysis of Clonally Related Cells, 13 J. Neurosci. 1730-50 (1993)					
A53	R. H. Miller, Oligodendrocyte Origins, 19 TINS 92-96 (1996)					
A54	K. Ono et al., Early Development and Dispersal of Oligodendrocyte Precursors in the Embryonic Chick Spinal Cord, 121 Development 1743-54 (1995)					

Form PTO-1449

Sheet 7 of 8

Mahendra S. Rao and Tahmina Mujtaba

Serial No.:

09/073,881

Att'y Docket No. T4903.CIP

Filing Date:

May 6, 1998

Group: 1643

For:

COMMON NEURAL PROGENITOR FOR THE CNS AND PNS

A.55	
A55	M. C. Raff et al., A Glial Progenitor Cell That Develops In Vitro into an Astrocyte or an Oligodendrocyte Depending on Culture Medium, 303 Nature 390-96 (1983)
A56	M. J. Rivkin et al., Oligodendroglial Development in Human Fetal Cerebrum, 38 Ann. Neurol. 92-101 (1995)
A57	G. S. Eisenbarth et al., <i>Monoclonal Antibody to Plasma Membrane Antigen of Neurons</i> , 76 Proc. Nat'l Acad. Sci. USA 4913-17 (1979)
A58	E. E. Geisert et al., The Neuronal Response to Injury as Visualized by Immunostaining of Class β -tubulin in the Rat, 102 Neurosci. Lettt. 137-41 (1989)
A59	I. Sommer et al., Monoclonal Antibodies (01-04) to Oligodendrocyte Cell Surfaces: An Immunocytological Study in the Central Nervous System, 83 Dev. Biol. 311-27 (1981)
A60	P. A. Trimmer et al., Combination of In Situ Hybridization and Immunocytochemistry to Detect Messenger RNAs in Identified CNS Neurons and Glia in Tissue Culture, 39 J. Histochem. Cytochem. 891-8 (1991)
A61	L. J. Wysocki et al., "Panning" for Lymphocytes: A Method for Cell Selection, 75 Proc. Nat'l Acad. Sci. 2844-48 (1978)
A62	M. Mayer et al., Ciliary Neurotrophic Factor and Leukemia Inhibitory Factor Promote the Generation, Maturation, and Survival of Oligodendrocytes, 120 Development 142-53 (1994)
A63	J. E. Bottenstein et al., <i>Growth of Rat Neuroblastoma Cell Line in Serum-Free Supplemented Medium</i> , 76 Proc. Nat'l Acad. Sci. USA 514-17 (1979)
A64	L. E. Lillien et al., Differentiation Signals in the CNS: Type-2 Astrocyte Development In Vitro as a Model System, 5 Neuron 5896-6273 (1990)

	/			
Examiner:		Vayer	Date Considered:	6/5/00

Form PTO-1449

Sheet 8 of 8

Applicant:

Mahendra S. Rao and Tahmina Mujtaba

Serial No.:

09/073,881

Att'y Docket No. T4903.CIP

Filing Date:

May 6, 1998

Group: 1643

For:

COMMON NEURAL PROGENITOR FOR THE CNS AND PNS

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form. Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

C:\MKK\T4903CIP.1449.frm

Examiner:

Date Considered: